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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/707,523	12/19/2003	Andreas Knecht	P7343.8US	1522
30008	7590	03/03/2005	EXAMINER	
GUDRUN E. HUCKETT DRAUDT			ESHETE, ZELALEM	
LONSSTR. 53			ART UNIT	
WUPPERTAL, 42289			PAPER NUMBER	
GERMANY			3748	

DATE MAILED: 03/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/707,523

Applicant(s)

KNECHT ET AL.

Examiner

Zelalem Eshete

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☒ Claim(s) 18 and 19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

This Office Action is in response to the amendment filed on 1/31/2005.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1,2,4-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ushida (5,960,757) in view of Ichinose et al. (JP2001-41012).

Regarding claim 1: Ushida discloses an adjusting device for camshafts of motor vehicles (see figures 1,2), comprising: a stator having radial inwardly projecting stays (see numerals 3a,3b), a rotor having vanes projecting into spaces defined between the stays of the stator (see numerals 9a,9b), wherein the rotor is rotatable relative to the stator and wherein the vanes of the rotor are loadable on opposed sides with a pressure medium (see numerals 10-13); wherein the rotor is lockable relative to the stator in a locked position (see numeral 7), wherein the stator has at least one locking bore and wherein the rotor has a locking element having a locking position in which the locking element engages the locking bore and locks the rotor in the locked position (see figure

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1), and wherein the locking element is moveable by the pressure medium from the locking position into a release position (see column 12, lines 23 to 30).

Ushida fails to disclose at least one locking bore is arranged centrally between two of the radial inwardly projecting stays of the stator.

However, Ichinose teaches various locking bore positions including at least one locking bore is arranged centrally between two of the radial inwardly projecting stays of the stator (see figures 4,6,22; abstract).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Ushida's device by providing a middle locking position as taught by Ichinose in order to implement the system in engines with various locking bore positions as taught by Ichinose.

Regarding claim 2: Ushida discloses locking disk or "plate" fastened on the stator wherein the locking bore is provided in the locking disk (see numeral 4).

Regarding claim 4: Ushida discloses the locking element has an end face facing the locking bore and wherein the end face is loaded by the pressure medium (see numeral 24).

Regarding claims 5,6: Ushida discloses the locking element is movable against a counterforce or spring force out of the locking position into the release position (see column 12, lines 23 to 30).

Regarding claim 7: Ushida discloses the locking element is a hollow piston (see numeral 7).

Regarding claim 8: Ushida discloses the locking element is arranged to be slidable within a bore provided in a first one of the vanes of the rotor (see figures 16,17, numeral 80).

Regarding claim 9: Ushida discloses the locking element has an end positioned in a bore of the first vane of the rotor, wherein the end of the locking element has an annular piston surface loadable by the pressure medium (see numeral 23).

Regarding claim 10: Ushida discloses the end of the locking element has a radially outwardly oriented flange and wherein the annular piston surface is provided on the radially outwardly oriented flange (see numeral 7).

Regarding claim 11: Ichinose discloses the vanes separate the spaces into a first pressure chamber and into a second pressure chamber, respectively, wherein the annular piston surface delimits axially an annular chamber wherein the annular chamber is connected by a first supply groove to the first pressure chambers of the stator and the annular chamber is connected by a first supply groove to the first pressure chamber and the second pressure chamber of the stator (see figures 4,6).

Regarding claim 12. Ushida discloses the first supply groove is closed by the first vane of the rotor in the release position of the locking element (see figures 1,2 numeral 33).

Regarding claim 13: Ichinose discloses the first supply groove is provided in the locking disk (see figure 6).

Regarding claim 14. Ichinose discloses an integrated supply groove opens into the at least one locking bore and connects the at least one locking bore with the first and second pressure chambers of the stator (see figure 6). Ushida in view of Ichinose discloses the claimed invention except for the first and second grooves. It would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the first/second grooves for the integral groove depending upon the engine, since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *Nerwin v. Erlichman*, 168 USPQ 177, 179.

Regarding claim 15: Ichinose discloses the second supply groove is closable by the first vane of the rotor in the release position of the locking element (see figure 5).

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3. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ushida in view of Ichinose as applied to claim 1 above; and further in view of Golovatai-Schmidt et al. (US2003/0084863).

Ushida as modified above discloses the claimed invention as recited above; however, fails to disclose the locking bore is elongate in a rotational direction of the rotor.

However, Golovatai-Schmidt teaches the locking bore is elongate in a rotational direction of the rotor (see figure 2).

It would have been obvious to one having ordinary skill in the art at the time the invention is made to modify the device as taught by Ushida as modified above by providing elongate bore in a rotational direction as taught by Golovatai-Schmidt in order to achieve a better locking mechanism.

4. Claims 16,17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ushida in view of Ichinose as applied to claim 1 above; and further in view of Trzmiel et al. (6,085,708).

Regarding claim 16: Ushida as modified above discloses the claimed invention as recited above; and further discloses the locking element is arranged to be slidable within a bore provided in a first one of the vanes of the rotor (figure 1,2).

Ushida as modified above fails to disclose wherein at least one of the spaces, neighboring the space where the first vane of the rotor is arranged, has at least two throttles for reducing a rotational speed of the rotor shortly before the locking element engages the at least one locking bore.

However, Trzmiel teaches damping throttles in order to hydraulically dampen changes in rotational positions of the parts (see column 5, line 52 to column 6, line 8).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Ushida as modified above by providing damping throttles as taught by Trzmiel in order to dampen changes in rotational positions of the parts as taught by Trzmiel.

Regarding claim 17: Trzmiel teaches the throttles are throttle grooves or “gap” connecting a supply of the pressure medium with the at least one of the spaces (see column 6, lines 13 to 16).

#### ***Allowable Subject Matter***

5. Claims 18,19 are allowed.

#### ***Response to Arguments***

6. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.



***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zelalem Eshete whose telephone number is (571) 272-4860. The examiner can normally be reached on Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (571) 272-4859. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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